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National Network, Local Connections Advisory Council Meeting 8

18 September 2024

Agenda

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Minutes and actions

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Customer Update

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XLEU Lighthouse Project

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Flexibility Multi Year Plan Update & Call for Input Feedback

Coffee break

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Roundtable Discussion

Lunch



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Speakers



Teresa Fallon
ESB Networks DMSO Design Lead



Alan Keegan
ESB Networks JSOP and R&S Hub Lead



Aoife Bradish
Flexibility Market Design Manager



Carol Murphy
ESB Networks Customer & Strategy Manager



Gerry Noone
ESB Networks Propositions Owner



Fiona O'Donnell
ESB networks Power System Requirements Manager



Eilis McFarlane
ESB Networks Demand Flexibility Policy Analyst

Welcome

WELCOME



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Housekeeping



Please mute your microphone and turn on your camera during the meeting



If joining us virtually, please raise your hand or drop questions into the chat function



Presentations and meeting minutes will be published in the NN,LC stakeholder hub and made available to the general public

Please note over the course of the year there may be open procurement processes so there may be aspects of the programme we will not be in a position to discuss.

Stakeholder forum link : ([Our Advisory Council \(esbnetworks.ie\)](https://www.esbnetworks.ie))

Actions Update

Item	Topic	Detail	Status	Progress Update
1	Beat the Peak Domestic	<ul style="list-style-type: none"> Details requested (statistics, analysis, etc.) for 'Is This a Good Time?' To consider if the presentation to the CRU on Beat the Peak Domestic could be shared. 	Closed	A "Beat the Peak Domestic Pilot Lessons Learned" report that was created for the CRU and contains statistics, outcomes and analysis was shared with Advisory Council members
2	Flexible Generations	Provide details and figures on how much capacity the Flexible Generation Connections Initiative is providing.	Closed	<p>Contracted flexible capacity for renewable energy project, going live from October 2024</p> <p>Cork: Firm: 12MW Non-Firm: 1.8MW</p> <p>Wicklow: Firm: 0MW Non-Firm: 1MW</p> <p>Tipperary: Firm: 19MW Non-Firm: 2MW</p> <p>Cavan: Firm: 3.35MW Non-Firm: 1MW</p>



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3. Customer Update

- General update and support request from Advisory Council

Domestic | 'Is This a Good Time' Branding Partnership Request

CONTEXT



21,300+
Active Participants



15 Energy Events
Nov 23 – Sept 24
30% response rate
88% action rate



514,332 Emails
Sent
69% Open rate

Key Insights



ITAGT Participants are **more than twice** as likely to 'feel in control of their energy use' (80%) vs the general public (38%)



95% of participants claim they now have a good understanding of when to prioritise particular appliance use in their home



Signs show participants are more conscious of their usage, **89%** consciously reducing their electricity usage between 5-7pm



Improved understanding of **peak usage** hours (5-7 pm) from 76% in April 2023 to **82%** now.



75% of people surveyed believed ITAGT pilot positioned ESB Networks as a sustainable brand

OPPORTUNITY

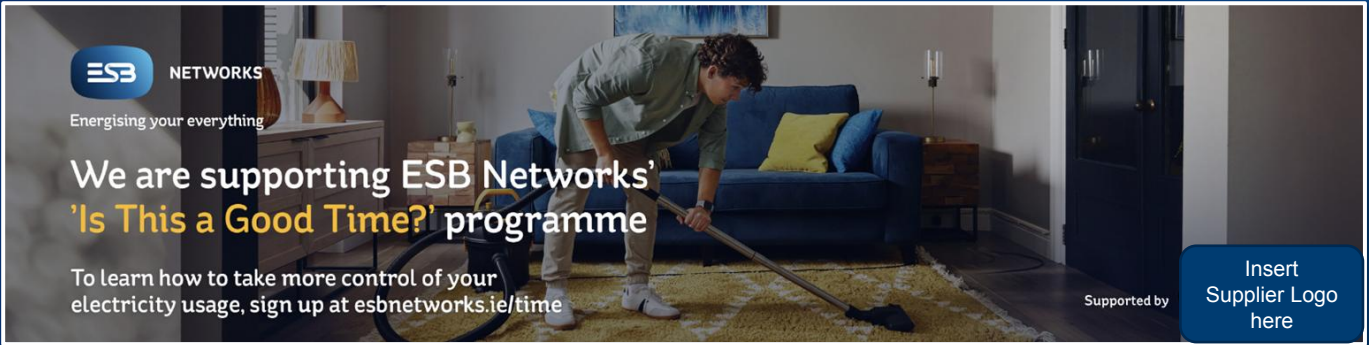
For suppliers/FSP's (others) to partner with ESB Networks in promoting the 'Is This a Good Time' campaign to their customers and employees using collateral designed in collaboration with ESB Networks



It's motivating "To know you are doing your part – you just get a sense of satisfaction out of it" (Programme Participant)

Domestic| 'Is This a Good Time' Branding Partnership – 2023 Impact

In 2023, one of our partners issued the 'Is This a Good Time?' recruitment campaign email over a three day period. This email campaign resulted in a spike of ~800 registrations over the three days.



125,789 Total
Emails Delivered



50.7%
Open Rate



6.2% Click
Through Rate



~820 Registrations
attributed to this period



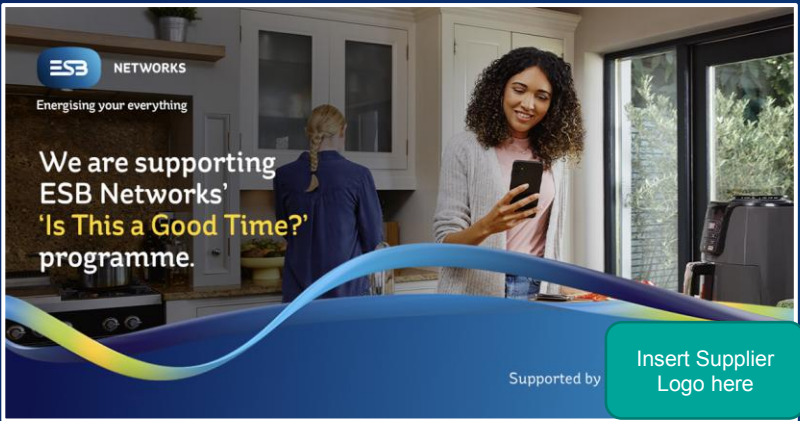
~5% of Total
Participants at the time



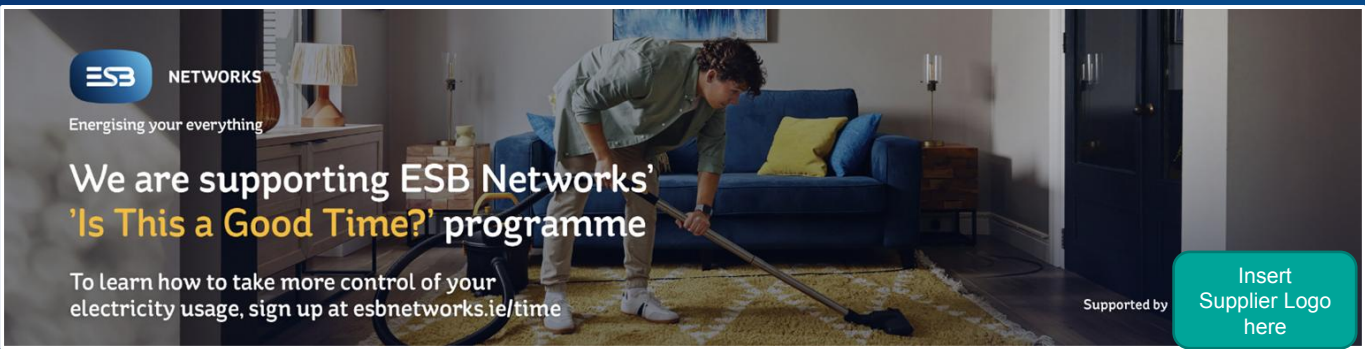
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Domestic | 'Is This a Good Time' Branding Partnership – 2023 Content Examples

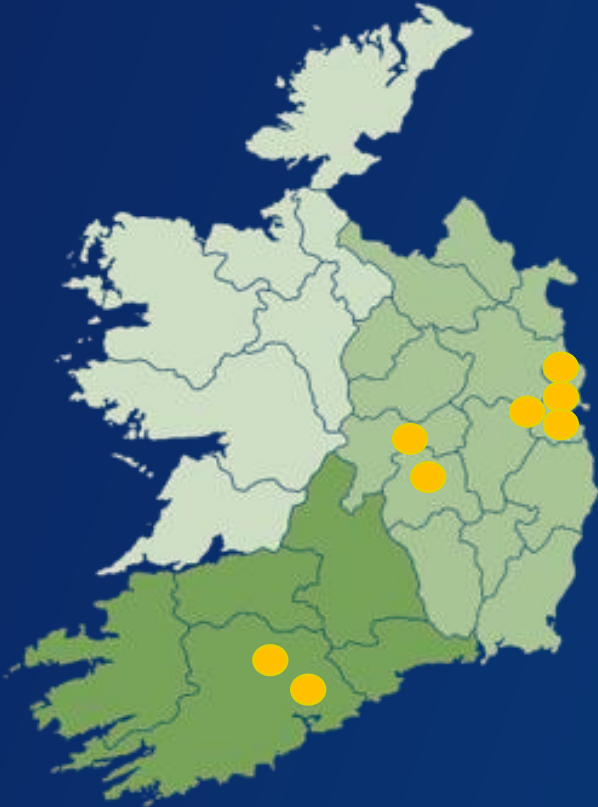
Social posts



Email Banners



Location | Flexibility Services Locational Research



CONTEXT

We want to understand how to stimulate market appetite for flexibility products or services in the following 8 locations, identified by the power system requirements team as sites with network congestion.

Flexibility is potentially one solution and as such, if you have any insights into customer appetite [domestic and non-domestic] for flexibility products & services in these locations and would be willing to support us in this research & share your insights, please email engagement@esbnetworks.ie

LOCATIONS

Finglas	Glasmore	Grange Castle
Inchicore	Middleton	Tullamore
Portlaoise	Fermoy	



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Non Domestic (SME- LEU) | Engagement & Actions from the last Advisory Council

Since the last advisory council, we have engaged with some of our advisory council members. The engagements have been informative and insightful, further details are outlined below:

The Engagement

The logo for Viotas, featuring the word "VIOTAS" in a bold, sans-serif font. The letters "I" and "O" are stylized with a dot above them. The logo is set against a white background within a yellow rounded rectangle.The logo for Pinergy, featuring a stylized circular icon with concentric rings in blue and red, followed by the word "Pinergy" in a bold, sans-serif font. The logo is set against a white background within a blue rounded rectangle.The logo for energia, featuring the word "energia" in a bold, sans-serif font. The letters "e" and "n" are stylized with a dot above them. The logo is set against a white background within a teal rounded rectangle.

The Valuable Output

We spoke to Viotas as we are carrying out research in the Business-to-Business space and learnt from an aggregator perspective the types of customers that are engaging or may engage in future demand side flexibility products and services.

Follow up action:

- ESNB to go on a Site Visit and visit one of Viotas's customers.

We spoke to Pinergy and Energia to understand their insights based on their relationship with business customers, to help us better understand non domestic customers, their challenges and what might motivate them to engage with demand flexibility initiatives.

Follow up action:

- Pinergy to revert with any sector consumption insights they can share.
- Pinergy to answer/screen some of the questions ESNB plans to interview Retail/Manufacturing businesses.
- Conduct possible testing in conjunction with ITAGT.

Follow up action:

- ESNB to have a follow on engagement with a representative from Energia's 'Cash for Kilowatts' scheme to discuss if there any insights at an aggregate level about the types of customers that engaging with the scheme

Non-Domestic (SME- LEU) | 3rd Party Test Concept

Context

A key insight from our research with business customers, suppliers and flexibility service providers has been that we need to lower the barrier to entry for customers to participate in flexibility services, they need the process to be **‘easy and simple’**.

We want to work with 3rd party provider(s) to test the concept of them sending flexibility demand up/down instructions to their customers directly, on our instruction.

What could this look like?*

**Final design and details TBC in conjunction with 3rd party provider*

- Similar to the DFS service in the UK which targets domestic/ non domestic customers.
- Customer is incentivised via points/ vouchers/ rewards etc. facilitated through the 3rd party provider. [TBC]
- A demand up/down instruction given to supplier/ flexibility service Provider/ aggregator to send out a signal to their customers to demand up/ down [TBC]
- Customers are notified by the provider [TBC]
- Result is measured by the provider based on the average demand reduced/increased and customers that acted are incentivised.

UK Case Study: ESO DFS

The image shows two overlapping screenshots. The top screenshot is from the ESO Demand Flexibility Service (DFS) website, titled 'Part of the ESO Demand Flexibility Service'. It lists 'DFS Registered Participant – Domestic Households – 2023/24' and includes a table of participants. The bottom screenshot is from the Octopus Saving Sessions app, featuring a purple background with a target graphic and the text 'Octopus SAVING SESSIONS'. Below this, it says 'Introducing Octopus Saving Sessions' and provides information about the service being hibernating for the summer and returning towards the end of 2024. It also includes a link to 'see your results and Octopoints balance' and a link to 'Find out how it went'. At the bottom, it says 'Get paid to use less at peak times this winter'.

Participant	Service
Axle Energy Ltd	HOMEflex
British Gas	HOMEflex
CarbonLaces Solutions Ltd	
Chameleon Technology (as Ivie)	
Easee UK Ltd (via Axle Energy Ltd)	HOMEflex
Ecotricity Group Limited via (SMS – Solo Energy Ltd)	
EDF	
E.ON Next Energy Ltd	
Equiwatt	HOMEflex
Foxglove Energy Supply Ltd T/A Outfox the Market (via SMS – Solo Energy Ltd)	HOMEflex
GN Energy (via Ivie Energy Ltd)	
100%	
Green	

To find out more, share thoughts, or to get involved please email engagement@esbnetworks.ie

4. XLEU Lighthouse Project

XLEU Lighthouse Project | Context & Background

Our objective is to develop a flexibility product for Large Energy Users to incentivise investment and operational measures to provide flexibility. Our lighthouse project, with a single Customer, will establish what this product could look like and what would be required to bring this to market more broadly. **Flexibility should be delivered from Insitu MIC for the Lighthouse.**

It is our stated commitment and strategy to enable flexibility with xLEUs

DECC's Biomethane strategy references xLEU Lighthouse Proposition (page 31)

[DECC's Final Strategy on Biomethane](#)

Data Centres being the dominant group within the xLEU category are key group to engage and mobilise on the flexibility journey

Additionally, Data centres presented a specific challenge and have strong decarbonising agendas

Lighthouse project to.....



A 'lighthouse' project or R&D engagement with a LEU, to demonstrate the viability and role of biomethane in enabling flexibility and supporting the displacement of fossil fuels. **Target is be market ready by 2024, in line with MYP.**

.....demonstrate viability of offering

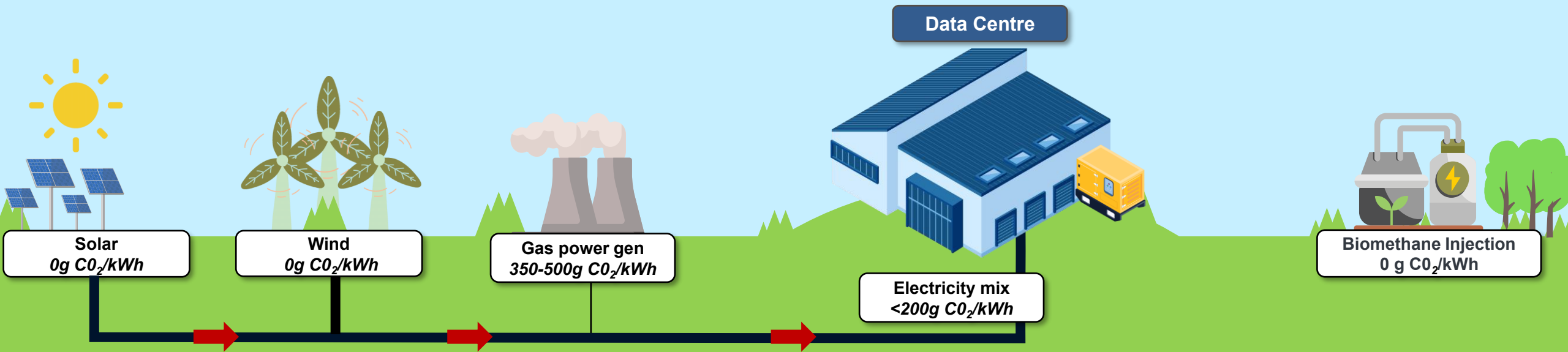
From Lighthouse project, can leverage learnings to develop a proven product that can be rolled out across xLEU customer base

Scale offering in a standardised manner to all eligible large energy users to facilitate decarbonisation and sustainable growth. Market forecast contained in slide 8

Business-As-Usual Situation | Sunny & Windy Conditions



- Due to windy and sunny conditions, low-carbon electricity is being used via the electricity grid to meet the data centre demand.



New Situation | No Wind and Cloudy Day



- When high-emission electricity plants run or system congestion occurs, data centres switch to back-up generation powered by biomethane. Based on carbon intensity the DMSO dispatches LEUs to use on site biomethane. This way we are increasing our flexible demand, without increasing our carbon output.

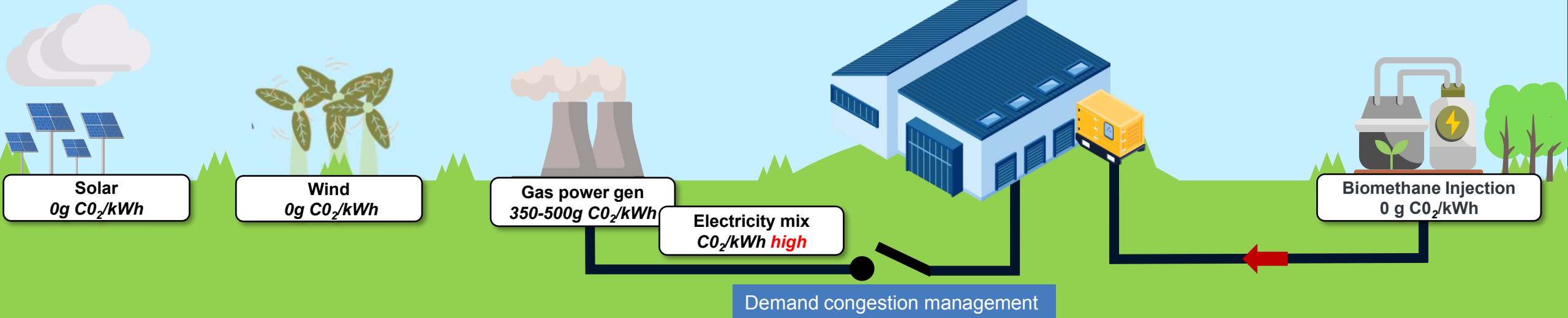
Distribution Markets and System Operation (DMSO)



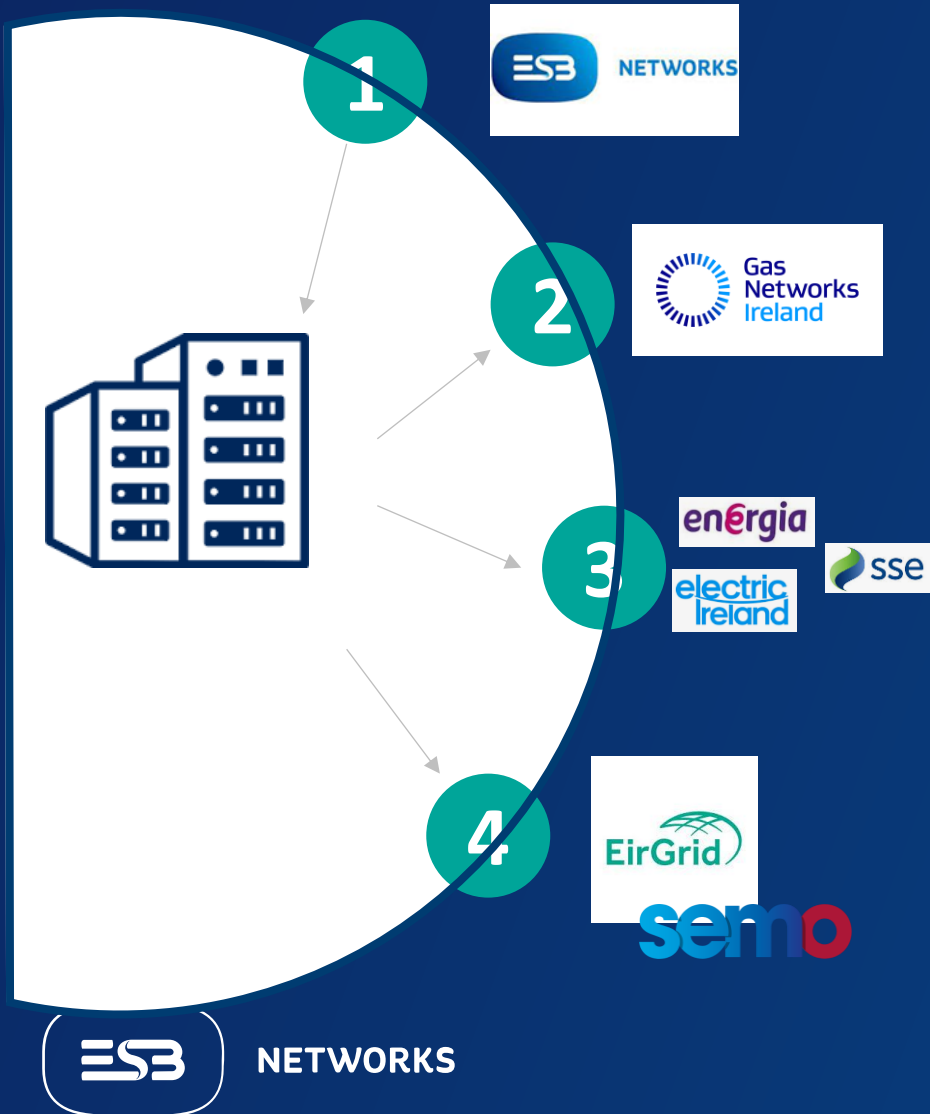
The DMSO schedules and dispatches the Data Centre on carbon intensity of Generation



Data Centre



High-level Ecosystem Interactions

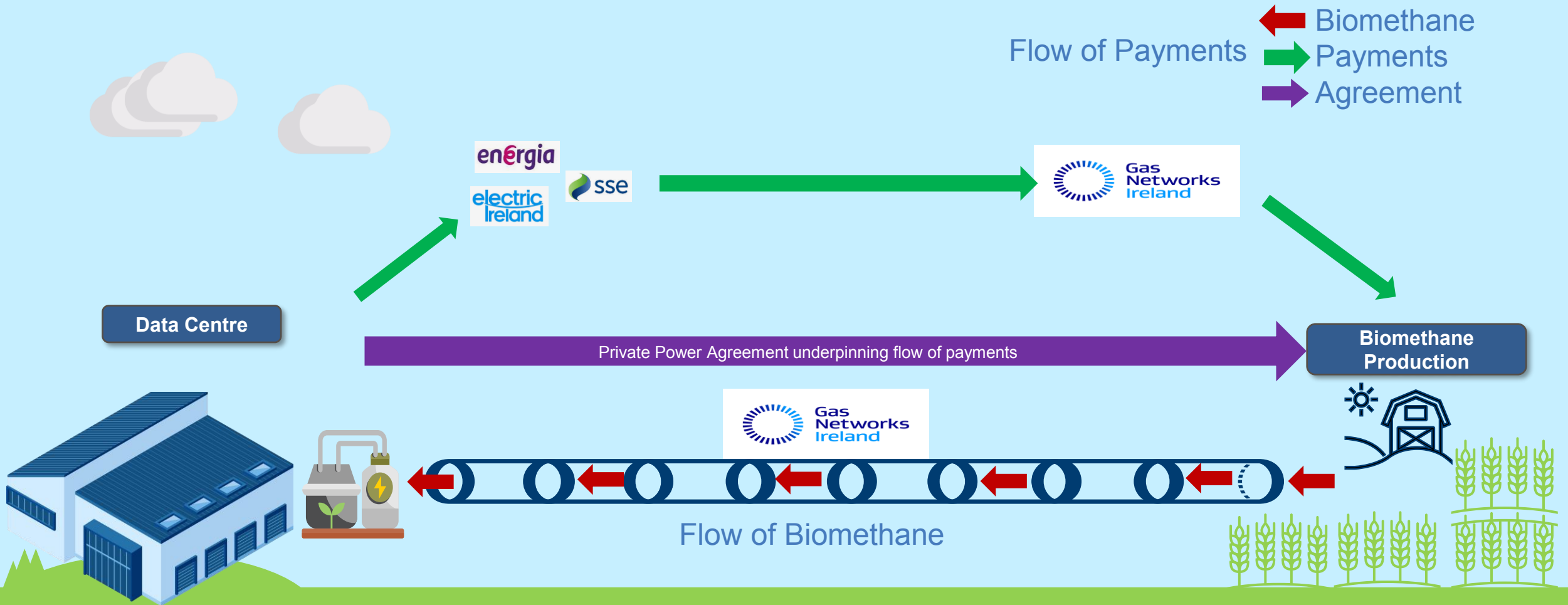


(Contractual Relationships)

- 1 ESBN will signal directly to Data centre customer for Flexibility
- 2 GNI required to certify gas used as Biomethane. International to begin with a cut-over to nationally produced in time
- 3 Customer will own relationship with Suppliers for Electricity and Gas (directly or through an Energy Services Aggregator)
- 4 Stacking with other Markets should be a feature as will not be financial incentivised product
- 5 ESBN will provide settlement & validation of performance

Cross sectoral collaboration via CRU & NEDs Working Group required to agree and validate ecosystem interactions

XLEU Lighthouse Project | Ecosystem Flow of Monies



XLEU Lighthouse Project | Next Steps

- Expression of Interest to be published.
- DECC's Biomethane Strategy Implementation Group.
- NEDS Action 2.12. Publish a plan for delivery
- Mult-Year Plan for Lighthouse to be available by end of 2024.

Questions / Discussions



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5. Flexibility Multi Year Plan

- Process and timeline
- Call for Input
- Progress updates on In-Flight Initiatives



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Flexibility Multi-Year Plans 2025 – 2029: Update

- CRU20154 requires ESB Networks to “...submit to the CRU in September each year, aligning with its consultation with stakeholders, a detailed multi year plan covering the three following years (and the two years after at high level).”
- Each MYP identifies milestones that we feel should be incentivised by CRU these are outlined in the Incentivised Milestones / Proposed Scorecard sections of each MYP
- The Flexibility MYP will include a section on Stakeholder Feedback received as part of our engagement with external stakeholders through the Flexibility Call for Input process.



Call for Input Stakeholder Feedback - Key Themes

Respondents



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Key Themes

- The role of the customer in tackling the challenges
- Electrification of Transport and facilitation of renewables
- The development of Standards for Behind the Meter (BtM)
- Hybrid connections
- Leveraging new technology for managing for smart operation systems
- Electrification of heat
- Investigation into other energy sources
- Energy Storage
- Leveraging smart meters for SMART Price Plans
- Collaboration with both incumbent energy suppliers and new, innovative Flexibility Service Providers
- Collaboration between EirGrid & ESB Networks to develop a whole of system approach
- Continued engagement and pilots

Call for Input Stakeholder Feedback - Key Themes & Initiatives

Key Themes

The role of the customer in tackling the challenges

Energy Storage

Electrification of Transport and facilitation of renewables

Collaboration with both incumbent energy suppliers and new, innovative Flexibility Service Providers

How ESB Networks are addressing this feedback

- BTPD 2.1 Is This a Good Time (ITAGT) raises awareness and education around peak times.
- Irelands Energy Community Toolkit support individuals and communities in engaging with flexible demand.

- Demand Flexibility Product (Grid Scale)
- looking at how residential storage can support local flexibility needs

- Flex charging Pilot
- Study on V2G market readiness and review of path to leverage this resource
- Flexible Connections

Engagement with Industry on the Adoption of DSO Market Participants Transition Model

Call for Input Stakeholder Feedback - Key Themes & Initiatives cont.

Key Themes

Hybrid connections

Leveraging Smart meters for Smart Price Plans

Investigation into other energy sources

Need for competition to encourage development of innovative, consumer centric solutions

How ESB Networks are addressing this feedback

- ESBN and EirGrid have agreed with CRU to remove the over install limit for connections (approved in 2024). Work is ongoing on how these can be accommodated in the market

- Energy Portal and upgrades to same improvement of data
- Implementation of Data Access code
- DMSO Toolkit

Reviewing and considering

- New Domestic and Commercial Product Launches and will encourage any suggestions in this space

Progress updates on key In-Flight Initiatives

Initiative	Description	September 2024 Update
Dynamic Instruction Set (DIS)	Implement DIS to enhance demand response and forecasting, boosting Individual Demand Sites' service provision to the TSO.	Since April 2024, 494 MWh released; DIS ends on September 30 for winter. ESBN to review 2024 with DSUs and discuss 2025 enhancements, also working with EirGrid to streamline DSUs' application process.
Flexible Generation Connections	Bypass extensive grid connection works by using flexible rules like Firm & Non-Firm Access during high generation/low demand or outages to expedite renewable project connections.	Pilot 4 has 4 sites signed up, offering 34.35 MW of Firm Export, 5.6 MW of Flexible Export with connection dates due to take place for each site within the next year, starting with the first site in October 2024, potentially saving 3 years per site.
FlexCharging	A total of 174 EV owners were enlisted for the FlexCharging study to determine network-friendly charging schedules, which ESBN will relay to FlexCharging for managed EV charging at specified times.	The study with 174 EVs (11.9 MWh battery capacity) showed 64.4 MWh charged in August, 55.015 MWh on-schedule, and 9.411 MWh off-schedule, averaging 1.23 MW charging power, indicating that scheduling can level peak demand.
BTPD 2.1	Is This a Good Time (ITAGT) is a customer product to raise awareness and education around peak times, the role of weather and electricity (i.e. solar & wind generation) and in changing consumer behaviour.	BTPD 2.1 is operational and ESBN are running an event most weeks with between 5 – 20k participants included in events. Flex Up and Demand Down events are being deployed, with research and analysis being conducted on participant behaviour to improve ESBN's operation of this.
CVR	CVR is a method to lower electricity usage by reducing supply voltage, enabled by a SCADA application that remotely controls transformer groups for specific events and timeframes.	CVR is business ready for operational go live in October 2024. This initiative will run for 2 months, when an analysis on performance will be conducted enabling consideration of this becoming a wider scale enduring solution.

Demand Flexibility Product Update



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Demand Flexibility Product | Update



CRU Decision

In early July, CRU finalised their Decision regarding the Demand Flexibility Product (DFP). This was published in a comprehensive Decision Paper that detailed their approval of ESB Networks' recommendation to procure up to 500MW of medium term flexibility of products.



ESBN Recommendations

ESB Networks also published a Recommendations Paper for the Demand Flexibility Product Proposal. This summaries the responses received during the first public consultation that closed in February 2024 and outlines ESB Network's recommendations for the procurement process.



Locations

A provisional list of locations where ESB Networks intends to procure, as part of the DFP has been finalised and published as part of the recommendations paper. A provisional timeline of key dates regarding the procurement was agreed upon, and also published, which is visible on the next slide.

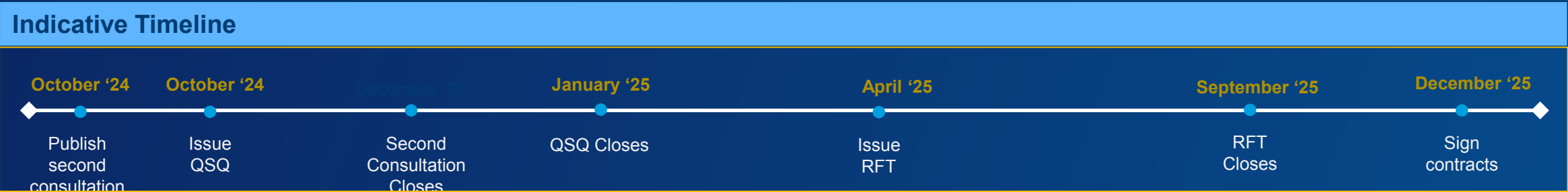


Second Consultation

A second public consultation paper for the DFP has been drafted and reviewed by various teams and internal stakeholders across ESB Networks. It is currently under review by the ESB Networks and the CRU. We aim to publish this mid October and it contains:

- A section on a 'day in the life' of a storage asset which details different example instructions that may be provided to a flexibility provider and then a range of scenarios that could apply to it, describing how revenues could be stacked, across markets, in each example scenario.
- A high level overview of the technoeconomic analysis was conducted that provides rational for the payment mechanism, the cost to customers and the various revenue sources available to flexibility providers.
- Consulting on phased procurement approach and early energisation arrangements, amongst others.

Demand Flexibility Product | Next Steps



Key Deliverables

Second Consultation:

- Following approval from the CRU, it is expected that the second consultation will be published in October and will remain open until mid-December.

QSQ:

- The QSQ, which has been drafted, is currently being reviewed internally. This will be published in October also and will remain open until January. ESB Networks has allowed another 3 months for review. This will include high-level questions for potential participants and is a mandatory prerequisite for the RfT.

Industry Engagement:

- In the period before the QSQ is issued, the DFP team aim to continue to interact with industry participants.
- ESB Networks will continue to engage with industry partners to gain a deeper understanding of the activities and timelines involved in procuring and installing assets. This aims to support the team in defining the longer-term dependencies and requirements up to energisation.

Second Recommendations Paper:

- Once the consultation window closes, public feedback will be considered, and relevant amendments may be made to the product proposal. A second recommendations paper will then be drafted.
- It is a priority also, following consultation, to further define the payment mechanism and the sharing factor percentages that it will include, to best deliver value for the DUoS customer and equitable revenue for the flexibility provider.

Flexible Demand Connections

- Timed connections
- Dynamic flexible connections



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Flexible Demand Connections | Agenda

- Drivers for flexible demand connections
- Expression of Interest – 2 phases
- European context
- Timed connections versus Dynamic flexible connections
- Key deliverables
- Selection of early flexible connections

Flexible Demand Connections | Drivers

- Electrification of energy demand – key Climate Action strategy
- Customer need for faster connection times
- Building on work done to facilitate flexible generation
- Advantages of managing when energy is used to overall benefit

Flexible Demand Connections | Expression of Interest

- Published – 4th June - open until 16th July
- 2 phases – timed; dynamic flexible
- Meetings with interested parties currently underway

Next Steps

- Engage with remaining Customers who have expressed interest
- Select customers for pilots
- Develop Technical and Commercial solutions with working group
- Development of Interim Company Standard

Expressions of Interest Received

37 Expressions of Interest received

24 Unique

9 Industrial Heat

6 Electrification of Transport

6 Industry/Other

3 Data Centres

Flexible Connections in EU's Electricity Market Design Directive

6 Most Important Takeaways

1

In areas where capacity is limited, flexible connection agreements should be made available.

2

Network reinforcement should be prioritised as it addresses the foundational issue.

3

Flexible connections are temporary and should switch to firm connections when capacity reinforcement completed.

4

Flexible connections can only be enduring solution if reinforcement is inefficient.

5

An estimate of expected curtailment levels should be provided with flexible connection requests.

6

Information about connection request status needs to be provided within 3 months of the submission of connection request.



Note: Full text available here https://www.europarl.europa.eu/doceo/document/TA-9-2024-0285_EN.pdf

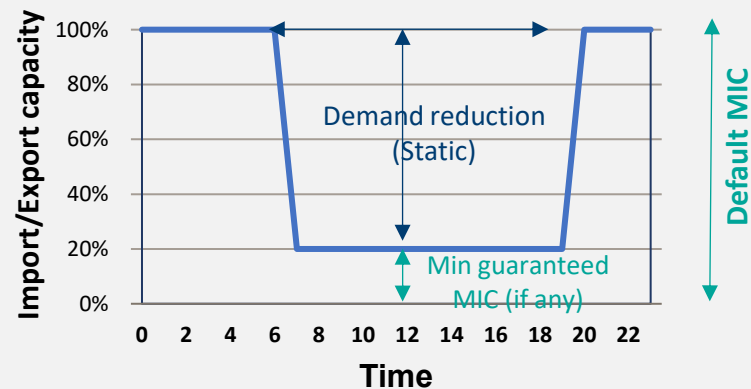
Flexible Demand Connections Proposition | Definition & Context



Two types of flexible connections are defined as extreme ends of spectrum of flexible connections. **This proposition will focus on Dynamic flexible connection (a non firm demand connection which does not guarantee full 24/7 access to MIC).**

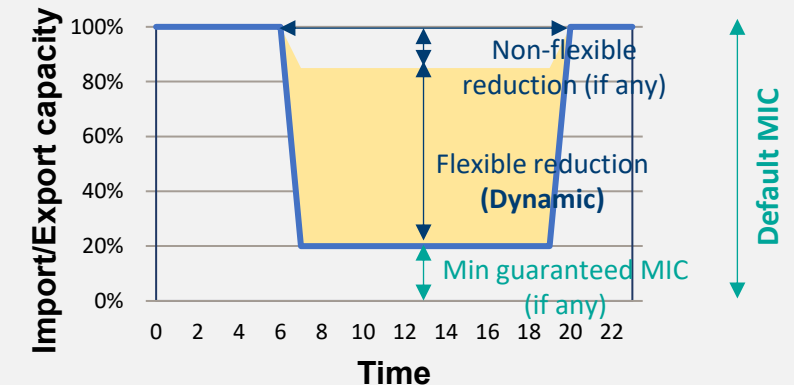
Timed Connections

- Fixed period with lower connection capacity either for a specific time of the day or for a specific portion of the year



Dynamic Flexible Connections

- Benefiting from a real-time dynamic forecast of network headroom based on network load, local generation and network configuration), the customer dynamically adjusts its usage.



Update interval (e.g., 5-min, 60min)



Forecast Horizon (e.g., 24h, 48h)

Operational complexity
Customer curtailment

A flexible connection product provides choice to customers and could create the following benefits:

1. Reduced connection costs
2. Reduced line charges
3. Increased speed of connection
4. Option to connect first and decide later on exact physical capacity needs

Flexible Demand Connections Proposition | Key Deliverables & Customer selection

- System Studies which identify the potential for a flexible solution to facilitate a customer connection
 - Develop operational processes which facilitate the operation of a customer connection. This will include what equipment needs to be installed to facilitate this
 - Legal and Commercial aspects
- Customer is looking for a new connection or increase in MIC
 - Customer must be able and willing to reduce their demand – however expectation is that flexibility required would be less than timed connections
 - Consider those who submitted response to EoI

Roundtable

- Open discussion and questions



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Questions to Advisory Council

1. Are there any initiatives that we are not doing that you think the DMSO should be considering?
2. How can we increase participation in initiatives?
3. Members consideration of Branding partnerships and 3rd Party Test Concept for “Is this a good time” campaign?

Thank you!

Contact us at engagement@esbnetworks.ie